UNITED NATIONS
ECONOMIC AND SOCIAL COUNCIL

Distr.
LIMITED

E/ECA/NRD/CART/18
22 October 1986

ENGLISH
Original: ENGLISH

ECONOMIC COMMISSION FOR AFRICA

Sixth United Nations Regional Cartographic Conference for Africa

Addis Ababa, Ethiopia, 10-17 November 1986

MAPPING SITUATION IN AFRICA

Introduction

1. More than ever before, many countries of the Third World have great need for the use of maps in the implementation of their development policies, plans and programmes. This is so because the planning, exploration, exploitation and rational utilization of their natural endowments are, to a great extent, dependent upon the availability of accurate, relevant and reliable scientific data, most of which can be depicted in the form of maps. Many African countries which are the greatest victims of economic backwardness among the Third World countries suffer from the dearth of such data, quantitatively and qualitatively, or are «importers» of these pre-requisites for meaningful economic planning and development. Among the factors that are responsible for Africa's economic backwardness are the low level of technological development and lack of technical know-how.

2. Although Africa is believed to posses many natural resources, these have either remained untapped for lack of information on their location, type, extent and size or are poorly developed and managed. There is, therefore,

a greater need today than in the past to assess the mapping situation in Africa with a view to identifying gaps which are still to be filled, in quality and quantity and, enhancing the quality and reliability of the inputs from accurate and up-to-date maps to the development planning process.

Data sources and attendant limitations on scope of the paper

3. This paper is inevitably being limited, in scope, to mapping situation in Africa at topographical scales 1:50,000, 1:100,000, 1:200,000 and 1:250,000 because of the following reasons:

(a) the present financial crisis in the United Nations has limited the number of field missions to countries of member States to collect relevant data;

(b) questionnaires, specifically designed to collect relevant data for the assessment, were not returned; and

(c) the country reports from member States on status of their mapping, sure and reliable source of information, had not been received at the time of writing the report.

4. In spite of these shortcomings, the risk has been taken to produce this paper on the mapping situation in Africa at topographical scale, based on available material and information at the secretariat's disposal. The data are mainly from three sources:

(a) A map CART-M-67-27 based on a study by the Cartography and Remote Sensing Unit of the secretariat in 1967;

(b) World Cartography Vol. XVII, 1983; and

(c) Fair-drawn topo index sheets of the Atlases of the Cartographic Inventory for Africa (1984).

5. The data and information on different topographicals in respect of the countries for which these are available have been extracted from these sources and shown in the attached table (see table annexed).

6. Columns 2 and 3 of the table contain information on the area 1/ of each country (in square kilometres) and its population 1/ respectively. Columns 4 to 7 present, in bar chart form, the percentages of each country's total areas covered by topographical maps at the indicated scales.

7. Until reliable and/or up-to-date data in respect of the mapping situation in each African country can be obtained, one can at best estimate roughly the percentage coverage of the whole continent, at the different topo scales, have been achieved. As the available maps, at the present time in majority of these countries need considerable up-dating for their usefulness for planning purposes, it suffices to come to the conclusion that Africa has inadequate map coverage at development planning scales of its land surface. Besides the obsoleteness of such maps, there are other defects such as quality of the controls on which they had been based, methodology of the production, skills and expertise available at time of production etc which detract from their usefulness as planning tools for development.

8. Based on the simple mathematical formula of averages,the percentage coverage (p_q), for any of these scales, can be computed from the following:

$$p_q = \frac{\sum_{r=1}^{r=n} p_r \, A_{T_r}}{\sum_{r=1}^{r=n} A_{T_r}}$$

1/ Annex

Where A_{T_r} = Total area of the country;

p_r = Percentage coverage at indicated scale for the country concerned;

and $p_q \times 100$ = Figure for the coverage.

9. Confining ourselves to the information contained in the table, these work out as follows[1/]:

(a) At 1:50,000, the coverage is 29%
(b) At 1:100,000, the coverage is 21%
(c) At 1:200,000, the coverage is, 43%
(d) At 1:250,000, the coverage is, 36%

10. Because of the incompleteness of the information in respect of all the 51 independent African countries, and of the little reliability that can be placed on some of the data and information available, these estimates of percentage map coverages at the indicated topographical scales should be taken with a grain of salt.

Conclusion

11. If we assume that a mapping coverage of 60 to 100 per cent of any country at any of the topo scales listed in the table can be regarded as fairly good, and in addition include those for which no information was available from any of the three sources listed in the foot-note, it is easily seen that at each of the topo scales, except perhaps 1:50,000, the mapping situation in Africa falls far short of its needs for meaningful planning and development.

1/ Excluding Namibia, Reunion, South Africa and Western Sahara.

12. As the scope of this paper has been unavoidably confined to the status of medium scale mapping in Africa due to lack of relevant data, it is hoped that it will engender most interest among the national mapping agencies in the continent to furnish to the secretariat of the ECA information on the status of mapping in their countries.

13. Sources of information which made it possible to compile the data in the table annexed to this paper are gracefully acknowledged.